



Drinking Water Surveillance Program

**UNION
WATER SUPPLY
SYSTEM**

Annual Report 1988



**Environment
Environnement**

91-02660/

UNION
WATER SUPPLY SYSTEM

DRINKING WATER SURVEILLANCE
PROGRAM

ANNUAL REPORT 1988

FEBRUARY 1990



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EXECUTIVE SUMMARY
DRINKING WATER SURVEILLANCE PROGRAM
UNION WATER SUPPLY SYSTEM
1988 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The Union Water Supply System uses a conventional treatment plant with solids contact upflow clarification. It treats water from Lake Erie. The process consists of screening, coagulation, flocculation, clarification, filtration and disinfection. This plant has a design capacity of 68 x 1000 m³/day and serves a population of approximately 45,000.

Water samples from the raw, treated and two distribution sites were taken on a monthly basis and analyzed for approximately 160 parameters. Parameters were divided into the following groups Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Specific Pesticides and Chlorophenols were analysed in June and November only.

A summary of results is shown in Table 1.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related ODWOS.

Of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1988 the DWSP sampling results indicated that the Union Water Supply System produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM UNION USS

SUMMARY TABLE BY SCAM

SCAM	RAW		TREATED				SITE 1				SITE 2			
	TESTS	POSITIVE	TESTS	POSITIVE	TESTS	POSITIVE	TESTS	POSITIVE	TESTS	POSITIVE	TESTS	POSITIVE	TESTS	POSITIVE
BACTERIOLOGICAL	41	35	85	48	10	20	40	5	12	40	3	7		
CHEMISTRY (FLC)	36	36	100	72	72	100	133	133	100	143	143	100		
CHEMISTRY (LAB)	246	212	86	242	165	68	426	348	81	430	337	78		
METALS	288	159	55	265	121	45	564	280	49	564	277	49		
CHLOROAROMATICS	168	0	0	168	0	0	140	0	0	168	0	0		
CHLOROPHENOLS	12	0	0	12	0	0	0	0	0	0	0	0		
PAH	204	0	0	204	0	0	0	0	0	0	0	0		
PESTICIDES & PCB	396	0	0	396	0	0	354	0	0	396	0	0		
PHENOLICS	12	1	8	12	0	0	0	0	0	0	0	0		
SPECIFIC PESTICIDES	56	0	0	56	0	0	0	0	0	0	0	0		
VOLATILES	287	0	0	287	40	13	287	40	13	259	36	13		
TOTAL	1746	443	1762	408		1944	806		2000	796				

NO HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
 A '0' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

UNION WATER SUPPLY SYSTEM 1988 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The DWSP was initiated at the Union Water Supply System in March 1987. An annual report was published for 1987 (ISSN 0840-5115).

This report contains information and results for 1988.

PLANT DESCRIPTION

The Union Water Supply System is located north of Kingsville; it is a conventional treatment plant with solids contact upflow clarification and treats water from Lake Erie. The process consists of screening, coagulation, flocculation, clarification, filtration and disinfection. A polyelectrolyte is added as a coagulant aid. Powdered activated carbon is used to control taste and odour problems. This plant has a design capacity of 68 x 1000 m³/day and

flows on day of sampling ranging from $26 \times 1000 \text{ m}^3/\text{day}$ to $65 \times 1000 \text{ m}^3/\text{day}$. It serves a population of 45,000. The H.J. Heinz Company accounts for 32% of the yearly water consumption.

The plant location is shown in Figure 1. Plant Process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from four DWSP approved locations;

- i) Plant Raw - The water originated from the lowlift discharge prior to chlorination and was sampled through a stainless steel line. The sample tap is located in the plant laboratory.
- ii) Plant Treated - The water originated from the highlift discharge after addition of all treatment chemicals and was sampled through a stainless steel line. The sample tap is located in the plant laboratory.
- iii) Distribution System - Site 1 - This site is approximately 8 kilometers from the plant. Water was sampled through copper plumbing from a household tap.
- iv) Distribution System - Site 2 - This site is approximately 24 kilometers from the plant. Water was sampled through copper plumbing from a household tap.

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

UNION WATER SUPPLY SYSTEM



FIGURE 2
UNION WATER SUPPLY SYSTEM

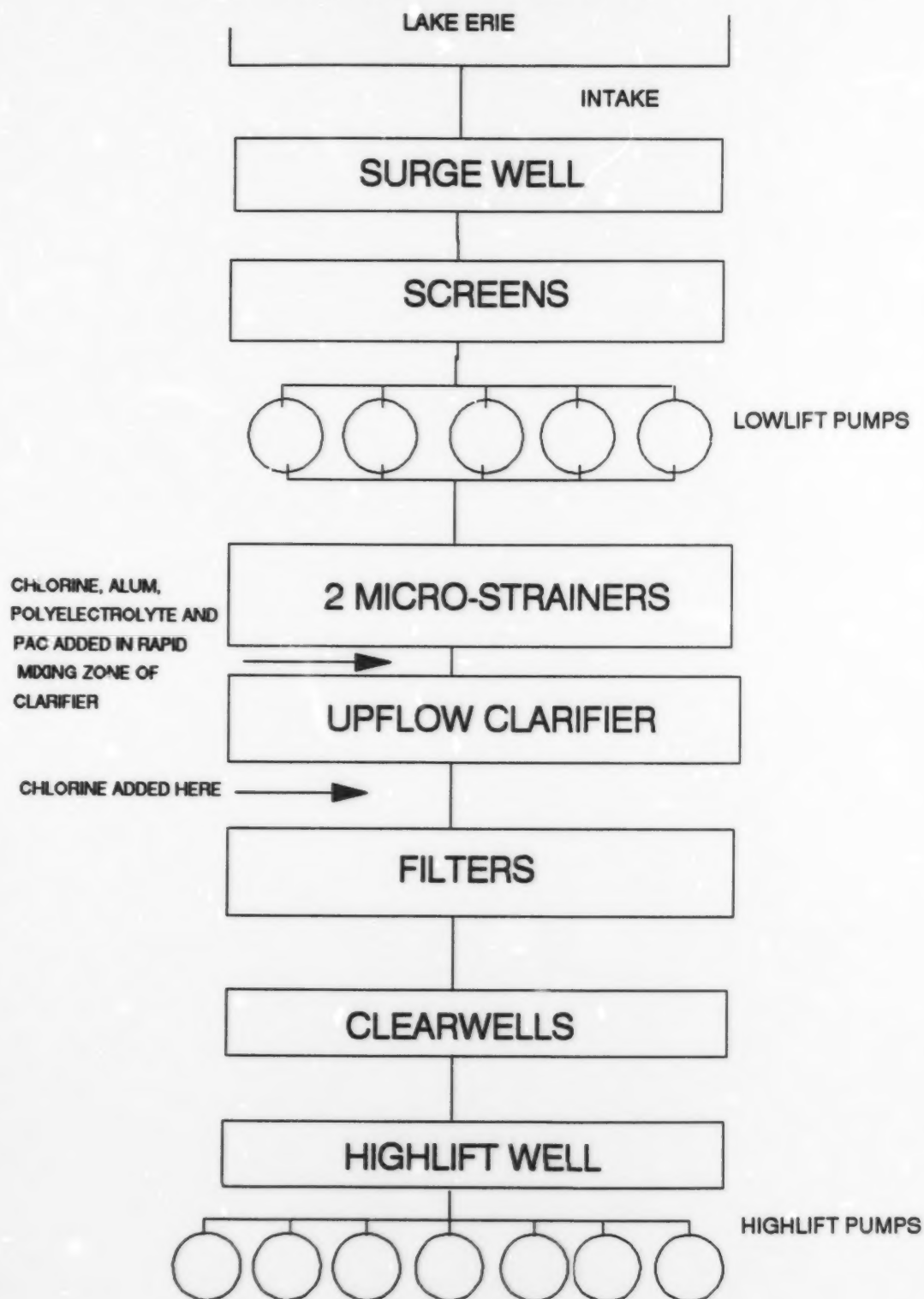


TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

UNION WATER SUPPLY SYSTEM

<u>LOCATION:</u>	P.O. BOX 298 KINGSVILLE, ONTARIO N9Y 2E9 (519-326-4447)
<u>SOURCE:</u>	RAW WATER SOURCE - LAKE ERIE
<u>DESIGN CAPACITY:</u>	68 (1000 M ³ /DAY)
<u>OPERATION:</u>	MINISTRY OF THE ENVIRONMENT
<u>PLANT SUPERINTENDENT:</u>	W. ALLSOP
<u>MINISTRY REGION:</u>	SOUTHWEST
<u>DISTRICT OFFICER:</u>	J. DRUMMOND

<u>MUNICIPALITY SERVED</u>	<u>POPULATION</u>
ESSEX	6,336
GOSFIELD NORTH	2,078
GOSFIELD SOUTH	7,052
KINGSVILLE	5,380
LEAMINGTON	12,680
MERSEA TOWNSHIP	3,718
MAIDSTONE TOWNSHIP	1,240
ROCHESTER TOWNSHIP	840
SANDWICH SOUTH TOWNSHIP	372

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At both distribution system locations two types of samples were obtained: a standing and a free flow . The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on) the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in the same manner.

Sample day flow, treatment chemical dosages and Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP database as submitted.

RESULTS

Water at the Union Water Supply System was sampled for approximately 160 parameters on a monthly basis. The Specific Pesticides and Chlorophenols scans were sampled in June and November only. Polynuclear Aromatic Hydrocarbons and Phenolics were only analysed in the raw and treated water at the plant. As a result of an unforeseen emergency the laboratory capacity was exceeded and analysis for volatiles could not be carried out when the samples were received. Since analysis for volatiles is no longer valid after four weeks of storage, volatile results for February and March are not available.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that

a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analysed on the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS)

recently published (ISBN 0-7729-4461-X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occurring or are treatment by-products.

Plant operational personnel address occurrences of taste and odour or biological water quality parameters. The DWSP does not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable values, as defined by established MOE Laboratory analytical reporting protocols. While they can be useful in trend analysis or confirmation of the presence of a specific contaminant that is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant.

DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.

Bacteriology

Positive results for the Bacteriology scan were present ten times in the treated water, five times in the Site 1 water and three

times in the Site 2 water. The positive parameters were Standard Plate Count and/or Total Coliform Background. No ODWOs were exceeded.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for Laboratory and Field Chemistry scans were below any applicable health related ODWOs .

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded sixteen times in the treated water and free flow distributed water.

Hardness levels varied from 105 mg/L to 132 mg/L. The ODWO recommend a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters, to provide an acceptable balance between corrosion and incrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for Union is mostly positive.

Metals

The results reported for the Metal scan were below any applicable health related ODWOS.

Iron and Manganese levels were lower in the treated water as compared to the raw water. This is a result of the treatment process. The addition of Alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper, Lead and Zinc were detected in the

standing water samples from the distribution system as compared to the free flow samples thus, indicating that small quantities of these metals were leached from the household plumbing as the water stood overnight. Although the Langelier Index indicates minimal potential for corrosion some metals will be leached in standing samples in most supplies.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 100 ug/L as Al in the water leaving the plant to avoid problems in the distribution system. Aluminum values exceeded the ODWO operational guideline twice in the treated water.

Organic Parameters

Chloroaromatics

Results of the Chloroaromatics scan showed that no chloroaromatics were detected.

Chlorophenols

Results of the Chlorophenol scan showed that no Chlorophenols were detected.

Pesticides and PCB (Polychlorinated Biphenyl)

Results of the Pesticides and PCB scan showed that no PCBs were detected and that three pesticides were detected:

Alpha BHC

Lindane

Atrazine

There are several isomers of BHC (Benzene Hexachloride); gamma BHC is the active ingredient of the pesticide Lindane, while alpha BHC is the isomer predominantly found in surface waters of the Great Lakes basin as indicated in results from other water supplies on DWSP.

Alpha BHC was detected at trace levels, five times in the raw water, four times in the treated water, five times in the Site 1 water and six times in the Site 2 water.

Lindane was detected at trace levels, twice in the raw water and once at both sites in the distribution system.

Atrazine was detected at trace levels, once in the raw water and the corresponding treated water, twice in the Site 1 water and once in the Site 2 water.

Specific Pesticides

Results of the Specific Pesticide scan showed that no specific

pesticides were detected.

Phenolics

The maximum desirable concentration of phenolic substances in drinking water is 2.0 ug/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected at trace levels, five times in the raw water and four times in the treated water. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

Results of the PAH scan showed that one PAH was detected:

Benzo(K)Fluoranthene

Benzo(K)Fluoranthene was detected at a trace level, once in the raw water.

Volatiles

Results of the Volatile scan showed that eight parameters, other than Trihalomethanes (THMs), were detected:

Benzene

Toluene

Ethylbenzene

Meta-Xylene

Ortho-Xylene

Styrene

1,1,1-Trichloroethane

Tetrachloroethylene

Benzene was detected at a trace level, once in the raw water.

Toluene was detected at trace levels, three times in the treated water, once in the Site 1 water and three times in the Site 3 water. The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology. The purge-and-trap analytical technique depends on the purging of the volatile organics in the water sample with helium gas onto a Tenax trapping column. The volatile materials are subsequently thermally desorbed, separated and quantified. Tenax, a toluene-like polymeric material, tends to decompose sporadically upon heating into toluene and other aromatic components (ethylbenzene and xylene) giving instrument blanks in the order of 0.05 ug/L.

The detected trace levels of Styrene are also considered to be laboratory artifacts due to the outgassing of monomeric styrene from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 ug/L.

Ethylbenzene was detected at trace levels, once in the raw water, nine times in the treated water, four times in the Site 1 water and seven times in the Site 2 water.

Meta-Xylene (M-Xylene) was detected at trace levels, once in the raw water and twice in the Site 2 water.

Ortho-Xylene (O-Xylene) was detected at trace levels, once in both the raw and treated water and three times in the Site 2 water.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP usually at trace levels.

1,1,1-Trichloroethane was detected at trace levels, twice in the raw water.

Tetrachloroethylene (T-Chloroethylene) was detected at trace levels, five times in the treated water, three times in the Site 1 water and twice in the Site 2 water.

THMs are known to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Chlorodibromomethane, Dichlorobromomethane and Total THMs were detected in all treated waters. Bromoform was detected

at trace levels in all but the January samples. All Total THM occurrences, ranging from 19.2 ug/L to 45.1 ug/L, were well below the ODWO of 350 ug/L.

CONCLUSIONS

The Union Water SupplySystem for the sample year of 1988 produced good quality water at the plant and this was maintained in the distribution system.

Review of the 1987 report indicates that water quality has remained consistent.

No health related guidelines, for organic or inorganic parameters, were exceeded during 1987 or 1988.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM UNION USS SAMPLE DAY CONDITIONS FOR 1968

SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)				
DATE	RETENTION TIME(HRS)	FLOW (1000G3)	COAGULATION	COAGULATION AID	TASTE & ODOUR	PRE-CHLORINATION	POST-CHLORINATION
			ALUM LIQUID	POLYELECTROLYTE	ACTIVATED CARBON POWDER	CHLORINE	CHLORINE
JAN 06	28.2	27.0	25.00	.20	2.00	.93	.65
FEB 01	6.4	25.9	20.00	.15	2.00	.69	.57
MAR 09	24.4	31.2	20.00	.15	2.00	.37	.68
APR 07	25.9	29.4	20.00	.20	2.00	.35	.71
MAY 02	13.4	56.9	22.11	.15	2.00	.30	.70
JUN 08	14.0	54.5	20.00	.15	2.00	.35	.75
JUL 06	13.7	55.4	20.00	.15	2.00	.85	.38
AUG 04	11.6	65.4	20.00	.15	2.00	.30	.60
SEP 08	13.5	56.3	20.00	.15	1.00	.30	.60
OCT 05	18.6	40.9	20.00	.15	1.00	.30	.75
NOV 09	19.4	29.8	30.00	.20	1.00	.30	.75
DEC 07	23.0	32.9	25.00	.15	2.00	.30	.60

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
BACTERIOLOGICAL	AEROMONAS SP	.	.	1	0	0	.	.	.
	E. COLI P/A	.	.	1	0	0	.	.	.
	FECAL COLIFORM MF	12	6	0	.	.	.	.	.
	FECAL COLIFORM	.	.	1	0	0	.	.	.
	STANDARD PLATE CNT MF	5	5	0	11	7	0	8	2
	P/A BOTTLE	.	.	8	1	0	8	0	0
	STAPH AUREUS	.	.	1	0	0	.	.	.
	COLIFORM	.	.	1	0	0	.	.	.
	TOTAL COLIFORM MF	12	12	0	12	0	0	12	0
	T COLIFORM BCKGRD MF	12	12	0	12	2	0	12	1

*TOTAL SCAN BACTERIOLOGICAL		41	35	0	48	10	0	40	3
*TOTAL GROUP BACTERIOLOGICAL		41	35	0	48	10	0	40	3

CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	12	12	0	18	0	24
	FLD CHLORINE FREE	.	.	12	12	0	20	0	23
	FLD CHLORINE (TOTAL)	.	.	12	12	0	23	0	24
	FLD PH	12	12	0	12	0	24	0	24
	FLD TEMPERATURE	12	12	0	12	0	24	0	24
*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	72	72	0	143	143

CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	24	24
*TOTAL SCAN CHEMISTRY (LAB)		12	12	0	12	12	0	24	24

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1988)

SCAM	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2			
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	CALCIUM	12	12	0	12	12	0	12	0	24	0	24	0
	CYANIDE	12	0	0	12	0	0	12	0	12	0	12	0
	CHLORIDE	12	12	0	12	12	0	24	24	0	24	24	0
	COLOUR	12	7	4	12	0	10	24	2	22	24	0	16
	CONDUCTIVITY	12	12	0	12	12	0	24	24	0	24	24	0
	FLUORIDE	12	12	0	12	12	0	24	24	0	24	23	1
	HARDNESS	12	12	0	12	12	0	24	24	0	24	24	0
	IRONICAL	12	5	0	12	5	0	24	10	0	24	10	0
	LANGELIERS INDEX	12	12	0	8	8	0	18	18	0	22	22	0
	MAGNESIUM	12	12	0	12	12	0	24	24	0	24	24	0
	SODIUM	12	12	0	12	12	0	24	24	0	24	24	0
	AMMONIUM TOTAL	12	10	2	12	7	5	24	19	5	24	17	6
	NITRITE	12	11	0	12	1	9	24	2	22	24	1	23
	TOTAL NITRATES	12	11	1	12	12	0	24	23	1	24	24	0
	NITROGEN TOT KJELD	12	12	0	12	10	1	24	22	2	24	18	5
	PH	12	12	0	12	12	0	24	24	0	24	24	0
	PHOSPHORUS FIL REACT	12	8	4	12	0	11	.	.	.	.	.	.
PHOSPHORUS TOTAL	12	10	2	12	0	5	.	.	.	.	.	.	
TOTAL SOLIDS	1	1	0	1	1	0	2	2	0	2	2	0	
SULPHATE	5	5	0	5	5	0	10	10	0	10	10	0	
TURBIDITY	12	12	0	12	8	4	24	24	0	24	18	6	
*TOTAL SCAM CHEMISTRY (LAB)		246	212	13	242	165	45	426	348	52	430	337	57
DETAILS	SILVER	12	0	1	11	0	3	24	1	9	24	1	11

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1968)

SCAM	PARAMETER	SITE			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS	ALUMINUM	12	12	0	11	11	0	24	24	0	24	24	0
	ARSENIC	12	1	10	11	0	9	24	0	19	24	0	19
	BARIUM	12	12	0	11	11	0	24	24	0	24	24	0
	BORON	12	6	6	11	5	6	24	14	10	24	17	7
	BERYLLIUM	12	0	6	11	0	6	24	0	15	24	0	12
	CADMIUM	12	1	1	11	0	0	24	0	5	24	0	3
	COBALT	12	0	12	11	0	11	24	0	23	24	1	23
	CHROMIUM	12	6	6	11	5	5	24	9	15	24	11	13
	COPPER	12	10	2	11	11	0	24	24	0	24	24	0
	IRON	12	12	0	11	0	2	24	4	20	24	0	19
	MERCURY	12	4	7	12	6	6	12	5	5	12	4	5
	MANGANESE	12	12	0	11	11	0	24	24	0	24	22	2
	MOLYBDENUM	12	9	3	11	11	0	24	24	0	24	24	0
	NICKEL	12	2	10	11	1	9	24	11	12	24	5	16
	LEAD	12	11	1	11	3	8	24	24	0	24	21	3
	ANTHONY	12	5	7	11	5	6	24	11	13	24	10	14
	SELENIUM	12	0	9	11	0	11	24	0	24	24	0	24
	STRONTIUM	12	12	0	11	11	0	24	24	0	24	24	0
	TITANIUM	12	12	0	11	9	2	24	21	3	24	22	2
	THALLIUM	12	0	6	11	0	5	24	0	8	24	0	4
	URANIUM	12	12	0	11	1	9	24	0	23	24	0	23
	VANADIUM	12	8	4	11	9	2	24	16	8	24	20	4
	ZINC	12	12	0	11	11	0	24	20	4	24	23	1
*TOTAL SCAM METALS		288	159	91	265	121	100	564	280	216	564	277	205
*TOTAL GROUP INORGANIC & PHYSICAL		570	407	104	579	358	145	1123	761	268	1137	757	262

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1988)

SCAM	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
CHLOROMATICS	HEXACHLOROBUTADIENE	12	0	0	12	0	0	10	0
	123 TRICHLOROBENZENE	12	0	0	12	0	0	10	0
	1234 T-CHLOROBENZENE	12	0	0	12	0	0	10	0
	1235 T-CHLOROBENZENE	12	0	0	12	0	0	10	0
	124 TRICHLOROBENZENE	12	0	0	12	0	0	10	0
	1245 T-CHLOROBENZENE	12	0	0	12	0	0	10	0
	135 TRICHLOROBENZENE	12	0	0	12	0	0	10	0
	HCB	12	0	0	12	0	0	10	0
	HEXACHLOROETHANE	12	0	0	12	0	0	10	0
	OCTACHLOROSTYRENE	12	0	0	12	0	0	10	0
	PENTACHLOROBENZENE	12	0	0	12	0	0	10	0
	236 TRICHLOROTOLUENE	12	0	0	12	0	0	10	0
	245 TRICHLOROTOLUENE	12	0	0	12	0	0	10	0
	26A TRICHLOROTOLUENE	12	0	0	12	0	0	10	0
*TOTAL SCAM CHLOROMATICS		168	0	0	168	0	0	140	0
CHLOROPHENOLS	23A TRICHLOROPHENOL	2	0	0	2	0	0	0	0
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	0	0
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	0	0
	245-TRICHLOROPHENOL	2	0	0	2	0	0	0	0
	246-TRICHLOROPHENOL	2	0	0	2	0	0	0	0
*TOTAL SCAM CHLOROPHENOLS		12	0	0	12	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1968)

SCAR	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL
PAR	PHENANTHRENE	12	0	0	12	0	0	0	0
	ANTHRACENE	12	0	0	12	0	0	0	0
	FLUORANTHENE	12	0	0	12	0	0	0	0
	PYRENE	12	0	0	12	0	0	0	0
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	0	0
	CHRYSENE	12	0	0	12	0	0	0	0
	DIMETH. BENZ(A)ANTHR	12	0	0	12	0	0	0	0
	BENZO(E) PYRENE	12	0	0	12	0	0	0	0
	BENZO(J) FLUORANTHENE	0	0	0	0	0	0	0	0
	BENZO(B) FLUORANTHENE	12	0	0	12	0	0	0	0
	PERYLENE	12	0	0	12	0	0	0	0
	BENZO(K) FLUORANTHENE	12	0	1	12	0	0	0	0
	BENZO(A) PYRENE	12	0	0	12	0	0	0	0
	BENZO(G,H,I) PERYLENE	12	0	0	12	0	0	0	0
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	0	0
	INDENOX(1,2,3-C,D) PY	12	0	0	12	0	0	0	0
	BENZO(B) CHRYSENE	0	0	0	0	0	0	0	0
	ANTHRANTHRENE	12	0	0	12	0	0	0	0
	COBOLONE	12	0	0	12	0	0	0	0
*TOTAL SCAR PAR		204	0	1	204	0	0	0	0
PESTICIDES & PCB		12	0	0	12	0	0	0	0
ALDRIN		12	0	5	12	0	4	10	0
ALPHA BHC		12	0	5	12	0	5	12	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1985)

SCAR	PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
		TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
PESTICIDES & PCB	BETA BHC	12	0	0	12	0	0	10	0	12	0
	LINDANE	12	0	2	12	0	0	10	0	12	0
	ALPHA CHLORDANE	12	0	0	12	0	0	10	0	12	0
	GAMMA CHLORDANE	12	0	0	12	0	0	10	0	12	0
	DIELDRIN	12	0	0	12	0	0	10	0	12	0
	METHOXYCHLOR	12	0	0	12	0	0	10	0	12	0
	ENDOSULFAN 1	12	0	0	12	0	0	10	0	12	0
	ENDOSULFAN II	12	0	0	12	0	0	10	0	12	0
	ENDRIN	12	0	0	12	0	0	10	0	12	0
	ENDOSULFAN SULPHATE	12	0	0	12	0	0	10	0	12	0
	HEPTACHLOR EPOXIDE	12	0	0	12	0	0	10	0	12	0
	HEPTACHLOR	12	0	0	12	0	0	10	0	12	0
	MIREX	12	0	0	12	0	0	10	0	12	0
	ORTHCLODANE	12	0	0	12	0	0	10	0	12	0
	OPPOUT	12	0	0	12	0	0	10	0	12	0
	PCB	12	0	0	12	0	0	10	0	12	0
	DDO	12	0	0	12	0	0	10	0	12	0
	PPODE	12	0	0	12	0	0	10	0	12	0
	PPOOT	12	0	0	12	0	0	10	0	12	0
	AMETHINE	12	0	0	12	0	0	12	0	12	0
	ATRAZINE	12	0	1	12	0	1	12	0	12	0
	ATRAZONE	12	0	0	12	0	0	12	0	12	0
	CYMAZINE	12	0	0	12	0	0	12	0	12	0
	DES ETHYL ATRAZINE	6	0	0	6	0	0	6	0	6	0
	DES ETHYL SIMAZINE	6	0	0	6	0	0	6	0	6	0

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1990S)

PARAMETER	SITE		RAW		TREATED		SITE 1		SITE 2	
	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE	TOTAL	POSITIVE TRACE
PESTICIDES & PCB										
PROMETHONE	12	0	0	12	0	0	12	0	12	0
PROPYLENE	12	0	0	12	0	0	12	0	12	0
PROMETHYNE	12	0	0	12	0	0	12	0	12	0
METIBUTYLZIN	12	0	0	12	0	0	12	0	12	0
SINAZINE	12	0	0	12	0	0	12	0	12	0
ALACHLOR	12	0	0	12	0	0	12	0	12	0
METOLACHLOR	12	0	0	12	0	0	12	0	12	0
TOTAL SCAR PESTICIDES & PCB	396	0	8	396	0	5	354	0	8	396
PHENOLICS										
PHENOLICS	12	1	4	12	0	4				
TOTAL SCAR PHENOLICS	12	1	4	12	0	4	0	0	0	0
SPECIFIC PESTICIDES										
TORAPHENE	0	0	0	0	0	0	0	0	0	0
2,4,5-T	2	0	0	2	0	0				
2,4-D	2	0	0	2	0	0				
2,4-DG	2	0	0	2	0	0				
2,4-D PROPIONIC ACID	2	0	0	2	0	0				
DICAMBA	2	0	0	2	0	0				
PICHLORAM	0	0	0	0	0	0				
SILVEX	2	0	0	2	0	0				
DIAZINON	2	0	0	2	0	0				

TABLE 4.

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1968)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL	RAW	POSITIVE	TRACE	TOTAL	POSITIVE	TOTAL	POSITIVE
SPECIFIC PESTICIDES									
	DICHLOROVOS	2	0	0	2	0	0	0	0
	CHLORPYRIFOS	2	0	0	2	0	0	0	0
	ETHION	2	0	0	2	0	0	0	0
	AZINPHOS-METHYL	0	0	0	0	0	0	0	0
	MALATHION	2	0	0	2	0	0	0	0
	MEVINPHOS	2	0	0	2	0	0	0	0
	METHYL PARATHION	2	0	0	2	0	0	0	0
	METHYLTRITON	2	0	0	2	0	0	0	0
	PARATHION	2	0	0	2	0	0	0	0
	PHORATE	2	0	0	2	0	0	0	0
	RELDAN	2	0	0	2	0	0	0	0
	RONNEL	2	0	0	2	0	0	0	0
	ANTHOCARB	0	0	0	0	0	0	0	0
	BENONYL	2	0	0	2	0	0	0	0
	BUX	2	0	0	2	0	0	0	0
	CARBOFURAN	2	0	0	2	0	0	0	0
	CICP	2	0	0	2	0	0	0	0
	DIALATE	2	0	0	2	0	0	0	0
	EPTAM	2	0	0	2	0	0	0	0
	IPC	2	0	0	2	0	0	0	0
	PROPONUR	2	0	0	2	0	0	0	0
	CARBARYL	2	0	0	2	0	0	0	0
	BUTYLATE	2	0	0	2	0	0	0	0
*TOTAL SCAN SPECIFIC PESTICIDES		56	0	0	56	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1985)

SCAN	PARAMETER	SITE		TREATED		SITE 1		SITE 2	
		TOTAL POSITIVE TRACE	RAW	TOTAL POSITIVE TRACE	POSITIVE TRACE	TOTAL POSITIVE TRACE	POSITIVE TRACE	TOTAL POSITIVE TRACE	POSITIVE TRACE
VOLATILES	BENZENE	10	0	1	10	0	0	9	0
	TOLUENE	10	0	0	10	0	3	9	0
	ETHYLBENZENE	10	0	1	10	0	9	9	0
	P-XYLENE	10	0	0	10	0	0	9	0
	M-XYLENE	10	0	1	10	0	0	9	0
	O-XYLENE	10	0	1	10	0	1	9	0
	STYRENE	3	0	0	3	0	0	3	0
	1,1 DICHLOROETHYLENE	10	0	0	10	0	0	9	0
	METHYLENE CHLORIDE	10	0	0	10	0	0	9	0
	1,1,2,2-TETRACHLOROETHYLENE	10	0	0	10	0	0	9	0
	1,1 DICHLOROETHANE	10	0	0	10	0	0	9	0
	CHLOROFORM	10	0	3	10	10	0	9	0
	1,1,1 TRICHLOROETHANE	10	0	2	10	0	0	9	0
	1,2 DICHLOROETHANE	10	0	0	10	0	0	9	0
	CARBON TETRACHLORIDE	10	0	0	10	0	0	9	0
	1,2 DICHLOROPROPANE	10	0	0	10	0	0	9	0
	TRICHLOROETHYLENE	10	0	0	10	0	0	9	0
	DICHLOROBROMOETHANE	10	0	2	10	10	0	9	0
	1,1,2 TRICHLOROETHANE	10	0	0	10	0	0	9	0
	CHLORODIBROMOETHANE	10	0	1	10	10	0	9	0
	T-CHLOROETHYLENE	10	0	0	10	0	5	9	0
	BROMOFORM	10	0	0	10	0	9	9	0
	1,1,2,2-TETRACHLOROETHANE	10	0	0	10	0	0	9	0
	CHLOROBENZENE	10	0	0	10	0	0	9	0
	1,4 DICHLOROETHYLENE	10	0	0	10	0	0	9	0

DRINKING WATER SURVEILLANCE PROGRAM UNION

SUMMARY TABLE OF RESULTS (1968)

[illegible]

KEY TO TABLE 5 and 6

- A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
 - 1+. MAC for Total Trihalomethanes
 - 1*. MAC for Bacteriological Analyses
- Poor water quality is indicated when :
- total coliform counts $> 0 < 5$
 - P/A Bottle Test is present after 48 hours
 - Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
 - Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
 - Standard Plate Count should not exceed 500 organisms per ml at 35 °C within 48 hours
2. Interim Maximum Acceptable Concentration (IMAC)
 3. Maximum Desirable Concentration (MDC)
 4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness > 200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.
- B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
 2. Proposed MAC
 3. Interim MAC
 4. Aesthetic Objective (AO) (for xylenes, the AO is a total)
- C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
 2. Tentative GV
 3. Aesthetic GV
- D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
 2. Suggested No-Adverse Effect Level (SNAEL)
 3. Lifetime Health Advisory
 4. EPA Ambient Water Quality Criteria
- F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
 2. Aesthetic Guideline Level
 3. Maximum Admissible Concentration (MADC)
- G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE
- H USSR MAXIMUM PERMISSIBLE CONCENTRATION
- I NEW YORK STATE AMBIENT WATER GUIDELINE
- N/A NONE AVAILABLE

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample

RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours

KEY TO TABLE 5 and 6

- A** **ONTARIO DRINKING WATER OBJECTIVES (ODWO)**
1. Maximum Acceptable Concentration (MAC)
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1*. MAC for Bacteriological Analyses
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1. Maximum Acceptable Concentration (MAC)
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3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)
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1. Maximum Contaminant Level (MCL)
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- F** **EUROPEAN ECONOMIC COMMUNITY (EEC)**
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissible Concentration (MADC)
- G** **CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE**
- H** **USSR MAXIMUM PERMISSIBLE CONCENTRATION**
- I** **NEW YORK STATE AMBIENT WATER GUIDELINE**
- N/A** **NONE AVAILABLE**

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:

1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS. REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident

!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

BACTERIOLOGICAL						
AEROMONAS SP ()			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)	
AUG	.	0	.	.	.	.

E. COLI P/A ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
AUG	.	0	.	.	.	.

FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)	
JAN	64	.	.	.	.	.
FEB	5	.	.	.	.	.
MAR	0	.	.	.	.	.
APR	1	.	.	.	.	.
MAY	0	.	.	.	.	.
JUN	2	.	.	.	.	.
JUL	0	.	.	.	.	.
AUG	0	.	.	.	.	.
SEP	BDL	.	.	.	.	.
OCT	0 T48	.	.	.	.	.
NOV	31 T48	.	.	.	.	.
DEC	26	.	.	.	.	.

FECAL COLIFORM% ()			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)	
AUG	.	0	.	.	.	.

STANDRD PLATE CNT MF (CT/ML)			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)	
JAN	ICP	0	.	0	.	0
FEB	ICP	3	.	1AW	.	1AW
MAR	158	14	.	1	.	2
APR	380	4	.	1AW	.	1AW
MAY	900	7	.	2	.	0
JUN	2400 >	11	.	1	.	0
JUL	24000 >	3	.	39	.	8
AUG	1AW	1AW	.	1AW	.	1AW
SEP	.	76	.	1AW	.	1AW
OCT	.	3 <=	.	0 <=	.	0 <=
NOV	.	4 <=	.	0 <=	.	0 <=
DEC	.	6 <=	.	1 <=	.	1 <=

P/A BOTTLE ()			DET'N LIMIT = 0		GUIDELINE = 0 (A1*)	
JAN	.	0	.	0	.	0
FEB	.	0	.	0	.	0
MAR	.	0	.	0	.	0
APR	.	0	.	0	.	0
MAY	.	0	.	0	.	0
JUN	.	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2		
			STANDING	FREE FLOW	STANDING	FREE FLOW	
JUL	.	0	.	0	.	0	
AUG	.	1	.	0	.	0	
STAPH AUREUS ()				DET'N LIMIT = N/A	GUIDELINE = 0 (A1)		
AUG	.	0	.	.	.	.	
COLIFORM ()				DET'N LIMIT = N/A	GUIDELINE = 0 (A1)		
AUG	.	0	.	.	.	.	
TOTAL COLIFORM MF (CT/100ML)				DET'N LIMIT = 0	GUIDELINE = 5/100ML(A1)		
JAN	3700 A3C	0	.	0	.	0	
FEB	220 A3C	0	.	0	.	0	
MAR	23 A3C	0	.	0	.	0	
APR	76	0	.	0	.	0	
MAY	16 A3C	0	.	0	.	0	
JUN	300 A3C	0	.	0	.	0	
JUL	8 A3C	0	.	0	.	0	
AUG	220 A3C	0	.	0	.	0	
SEP	200 A3C	0	.	0	.	0	
OCT	112 A3C	0 T24	.	0 T24	.	0 T24	
NOV	3000 >	0 T24	.	0 T48	.	0 T24	
DEC	1200 A3C	0 T48	.	0 T48	.	0 T48	
T COLIFORM BCKGRD MF (CT/100ML)				DET'N LIMIT = 0	GUIDELINE = N/A		
JAN	42000	0	.	0	.	0	
FEB	1000	0	.	0	.	0	
MAR	1800	0	.	0	.	0	
APR	304	0	.	0	.	0	
MAY	2100	0	.	0	.	0	
JUN	90000	0	.	0	.	1	
JUL	2200	0	.	4	.	0	
AUG	18000	2	.	0	.	0	
SEP	10000	0	.	0	.	0	
OCT	9600 >	59 T24	.	0 T24	.	0 T24	
NOV	3000 >	0 T24	.	0 T48	.	0 T24	
DEC	30000 A3C	0 T48	.	0 T48	.	0 T48	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION VSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.200	.	.050	.200	.200
FEB	.	.150	.	.200	.200	.200
MAR	.	.200	.300	.100	.200	.200
APR	.	.100	.100	.200	.100	.100
MAY	.	.090	.200	.100	.100	.200
JUN	.	.100	.	.100	.190	.050
JUL	.	.070	.300	.300	.200	.200
AUG	.	.050	.	.	.030	.010
SEP	.	.100	.100	.100	.200	.200
OCT	.	.100	.	.200	.100	.100
NOV	.	.200	.100	.150	.200	.200
DEC	.	.050	.200	.100	.200	.100

FLD CHLORINE FREE ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.700	.100	.100	.500	.300
FEB	.	.750	.300	.100	.500	.500
MAR	.	.700	.	.300	.300	.300
APR	.	.800	.100	.300	.300	.400
MAY	.	.660	.100	.300	.	.500
JUN	.	.700	.100	.100	.010	.200
JUL	.	.750	.	.	.100	.200
AUG	.	.620	.100	.100	.040	.120
SEP	.	.700	.100	.100	.300	.300
OCT	.	.800	.	.100	.200	.300
NOV	.	.700	.200	.200	.100	.300
DEC	.	.720	.100	.400	.200	.600

FLD CHLORINE (TOTAL) ()			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.900	.100	.150	.700	.500
FEB	.	.900	.300	.300	.700	.700
MAR	.	.900	.300	.400	.500	.500
APR	.	.900	.200	.500	.400	.500
MAY	.	.750	.300	.400	.100	.700
JUN	.	.800	.100	.200	.200	.250
JUL	.	.820	.300	.300	.300	.400
AUG	.	.670	.100	.100	.070	.130
SEP	.	.800	.200	.200	.500	.500
OCT	.	.900	.	.300	.300	.400
NOV	.	.900	.300	.350	.300	.500
DEC	.	.770	.300	.500	.400	.700

FLD PH (DIMENSIONLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.120	7.230	7.400	7.400	7.400	7.400
FEB	7.400	7.240	7.500	7.400	7.600	7.400
MAR	8.540	7.400	7.500	7.500	7.500	7.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	7.900	7.400	7.500	7.500	7.500	7.450
MAY	8.000	7.400	7.500	7.500	7.400	7.400
JUN	7.700	7.500	7.500	7.500	7.500	7.500
JUL	8.000	7.320	7.500	7.500	7.500	7.400
AUG	8.010	7.290	7.600	7.500	7.600	7.560
SEP	8.190	7.350	7.400	7.400	7.400	7.400
OCT	8.030	7.300	7.500	7.500	7.400	7.400
NOV	8.000	7.300	7.400	7.300	7.600	7.600
DEC	7.500	7.410	7.400	7.400	7.500	7.500
FLD TEMPERATURE (DEG.C)						
			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	.500	.500	14.000	10.500	11.000	10.000
FEB	.500	.500	18.000	9.000	18.000	9.000
MAR	.500	1.000	16.000	7.000	16.500	9.500
APR	4.500	6.500	20.000	9.500	18.000	12.500
MAY	13.000	13.000	19.000	14.000	18.000	14.000
JUN	18.000	18.000	23.000	17.500	19.500	16.000
JUL	24.500	22.500	23.000	23.000	22.000	20.000
AUG	27.000	27.000	24.000	23.000	25.000	25.000
SEP	22.000	22.000	23.000	23.000	21.000	21.000
OCT	19.500	19.000	21.000	20.500	19.000	18.500
NOV	7.000	7.500	18.000	16.000	18.000	14.000
DEC	3.500	3.500	19.000	10.500	20.500	12.000
FLD TURBIDITY (FTU)						
			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	69.000	.110	.200	.210	.120	.120
FEB	6.000	.080	.160	.140	.190	.170
MAR	33.000	.080	.150	.120	.120	.100
APR	8.600	.120	.170	.100	.150	.120
MAY	10.000	.080	.160	.130	.140	.160
JUN	5.000	.110	.200	.200	.360	.120
JUL	2.900	.120	.980	1.040	.110	.110
AUG	8.000	.140	.640	.550	.370	.410
SEP	4.400	.040	.110	.110	.100	.100
OCT	4.200	.040	.180	.140	.140	.130
NOV	44.000	.030	.160	.120	.080	.050
DEC	22.000	.050	.130	.110	.270	.110

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION MSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	97.100	84.400	85.200	85.700	85.400	85.300
FEB	91.700	81.400	86.500	84.400	83.500	82.700
MAR	96.000	78.900	86.100	85.900	88.500	85.600
APR	93.500	82.500	85.400	85.200	85.200	84.600
MAY	101.700	89.700	91.900	92.400	92.700	90.500
JUN	94.100	83.900	85.400	85.600	85.100	86.400
JUL	94.400	83.500	84.200	84.800	84.200	83.700
AUG	89.500	82.200	82.100	80.900	85.600	84.600
SEP	86.100	72.000	74.000	74.200	74.200	74.400
OCT	86.800	75.800	77.900	77.700	78.300	78.000
NOV	86.900	75.700	80.800	78.000	78.400	78.100
DEC	88.900	79.400	81.900	82.000	81.700	80.700
CALCIUM (MG/L)						
			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	37.000	37.200	38.400	38.400	38.000	37.800
FEB	33.600	33.600	34.600	34.600	33.800	34.400
MAR	36.000	35.000	35.600	36.600	35.000	34.800
APR	33.000	33.400	33.200	33.600	34.600	35.200
MAY	35.600	35.600	37.200	36.800	37.000	35.800
JUN	31.900	31.200	32.100	32.800	32.700	31.900
JUL	31.200	31.800	32.400	33.200	32.800	32.000
AUG	30.100	31.800	31.700	31.300	33.600	33.300
SEP	29.200	29.000	29.800	30.400	29.600	30.400
OCT	31.000	30.600	31.400	31.200	31.000	31.600
NOV	29.400	30.800	31.200	31.200	31.800	30.600
DEC	33.200	35.000	36.200	35.800	36.200	35.600
CHLORIDE (MG/L)						
			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	17.500	18.800	19.500	19.500	18.900	18.600
FEB	13.000	13.900	14.500	14.200	14.100	14.000
MAR	14.000	14.900	15.100	14.800	15.000	14.800
APR	13.100	14.300	14.500	14.300	14.300	14.400
MAY	14.200	15.200	15.700	15.400	15.900	15.200
JUN	9.100	10.500	10.700	10.500	10.900	10.400
JUL	8.900	9.900	10.200	10.100	10.000	10.000
AUG	9.400	10.400	10.700	10.700	10.700	10.700
SEP	9.700	10.800	10.800	10.800	10.900	10.900
OCT	8.500	9.700	10.400	10.300	10.000	9.800
NOV	10.300	11.400	10.700	10.600	10.800	10.800
DEC	18.700	23.500	25.800	25.500	24.900	23.200
COLOUR (KZU)						
			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	6.500	.500 <T	1.000 <T	1.000 <T	.500 <T	.500 <T
FEB	4.500	BDL	.500 <T	.500 <T	BDL	BDL
MAR	3.500	1.000 <T	1.000 <T	1.000 <T	BDL	.500 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	2.500	.500 <T	.500 <T	1.000 <T	.500 <T	.500 <T
MAY	2.500	.500 <T	.500 <T	.500 <T	1.000 <T	1.000 <T
JUN	3.000	1.500 <T	1.500 <T	1.500 <T	1.500 <T	1.500 <T
JUL	2.000 <T	.500 <T	1.000 <T	.500 <T	.500 <T	.500 <T
AUG	2.500	.500 <T	4.500	3.500	.500 <T	.500 <T
SEP	2.000 <T	BDL	1.500 <T	.500 <T	BDL	BDL
OCT	2.000 <T	.500 <T	1.000 <T	.500 <T	.500 <T	.500 <T
NOV	BDL	.500 <T	.500 <T	.500 <T	BDL	BDL
DEC	.500 <T	.500 <T	.500 <T	.500 <T	.500 <T	BDL
CONDUCTIVITY (UMHO/CM)		DET'N LIMIT = 1		GUIDELINE = 400 (F2)		
JAN	307	318	316	316	313	311
FEB	265	271	277	280	.76	273
MAR	277	274	285	285	287	285
APR	265	273	276	275	277	277
MAY	292	298	302	303	306	298
JUN	253	260	262	263	263	264
JUL	125	250	253	252	253	251
AUG	240	252	251	249	257	256
SEP	235	240	243	244	244	244
OCT	235	243	247	246	247	246
NOV	236	254	249	253	246	246
DEC	275	301	314	311	312	302
FLUORIDE (MG/L)		DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)		
JAN	.080	.060	.080	.080	.080	.080
FEB	.080	.080	.080	.080	.080	.080
MAR	.100	.070	.060	.070	.100	.060
APR	.100	.080	.090	.090	.080	.090
MAY	.100	.090	.090	.090	.090	.090
JUN	.110	.090	.090	.090	.090	.080
JUL	.110	.100	.100	.100	.100	.100
AUG	.100	.090	.090	.090	.090	.090
SEP	.100	.080	.080	.060	.060	.080
OCT	.100	.100	.100	.100	.080	.080
NOV	.080	.080	.080	.060	.040 <T	.080
DEC	.100	.080	.080	.080	.080	.080
HARDNESS (MG/L)		DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)		
JAN	128.000	129.000	132.000	132.000	131.000	130.000
FEB	113.000	113.000	115.000	114.000	113.000	115.000
MAR	124.000	123.000	123.000	125.000	124.000	122.000
APR	116.000	118.000	116.000	118.000	120.000	122.000
MAY	123.000	124.000	127.000	125.000	127.000	123.000
JUN	111.000	109.000	110.000	111.000	112.000	110.000
JUL	110.000	112.000	113.000	112.000	112.000	110.000
AUG	107.200	111.400	110.400	108.600	114.300	113.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION MSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	105.000	104.000	106.000	107.000	105.000	106.000
OCT	110.000	108.000	110.000	109.000	110.000	111.000
NOV	105.000	108.000	108.000	108.000	110.000	108.000
DEC	117.000	123.000	124.000	124.000	125.000	124.000
TONGAL (DMMSLESS)		DET'N LIMIT = N/A		GUIDELINE = N/A		
JAN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
FEB	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
APR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAY	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUL	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
AUG	2.751	3.329	3.949	4.173	4.002	3.688
SEP	.057	.733	2.466	1.574	3.284	2.135
OCT	4.699	.340	.731	.594	.196	1.006
NOV	2.021	3.334	4.219	1.320	.333	1.389
DEC	5.230	5.777	7.133	7.690	7.457	7.867
LANGELIERS INDEX (DMMSLESS)		DET'N LIMIT = N/A		GUIDELINE = N/A		
JAN	.354 NAF	.006 NAF	.122 NAF	.314 NAF	.259 NAF	.286 NAF
FEB	.243 NAF	-.041 NAF	.146 NAF	.104 NAF	.061 NAF	-.014 NAF
MAR	.298 NAF	.042 NAF	.133 NAF	.174 NAF	.207 NAF	.191 NAF
APR	.264 NAF	.012 NAF	.033 NAF	.058 NAF	.129 NAF	.044 NAF
MAY	.413 NAF	.064 NAF	.174 NAF	.141 NAF	.244 NAF	.142 NAF
JUN	.297 NAF	.144 NAF	.224 NAF	.224 NAF	.200 NAF	.215 NAF
JUL	.310 NAF	.085 NAF	.035 NAF	-.051 NAF	.081 NAF	.018 NAF
AUG	.245	.077	.056	-.006	.217	.178
SEP	.197	-.106	-.003	.006	.045	.067
OCT	.266	.109	.140	.127	.137	.174
NOV	.183	-.273	-.068	-.054	.009	-.050
DEC	.181	-.025	-.011	.005	.028	.029
MAGNESIUM (MG/L)		DET'N LIMIT = .050		GUIDELINE = 30 (F2)		
JAN	8.800	8.800	8.700	8.700	8.700	8.800
FEB	7.000	7.100	7.000	6.700	6.900	7.000
MAR	8.400	8.600	8.200	8.300	9.000	8.400
APR	8.200	8.400	8.100	8.100	8.300	8.300
MAY	8.400	8.600	8.200	8.100	8.400	8.300
JUN	7.600	7.650	7.350	7.100	7.400	7.450
JUL	7.900	7.900	7.700	7.100	7.200	7.300
AUG	7.800	7.800	7.600	7.400	7.400	7.400
SEP	7.900	7.700	7.500	7.500	7.500	7.300
OCT	8.000	7.700	7.600	7.500	7.900	7.800
NOV	7.600	7.500	7.200	7.300	7.500	7.600
DEC	8.200	8.500	8.000	8.400	8.400	8.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	9.400	9.200	9.600	9.800	9.400	9.400
FEB	7.400	7.400	7.400	7.600	7.600	7.200
MAR	7.400	7.600	7.400	7.600	7.800	7.600
APR	7.400	8.000	8.400	8.000	7.200	7.800
MAY	8.000	7.800	8.200	8.200	8.200	8.000
JUN	6.000	6.100	6.100	6.100	6.000	5.900
JUL	5.200	5.200	5.200	5.000	5.200	5.200
AUG	5.600	5.400	5.400	5.400	5.400	5.200
SEP	6.000	6.000	6.000	6.000	5.800	5.800
OCT	6.400	5.800	6.400	5.800	6.000	5.800
NOV	5.800	5.800	5.600	5.600	6.000	6.400
DEC	8.200	9.800	11.400	10.200	10.400	9.800
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.010	.010	.022	.016	.010	.014
FEB	.020	.002 <T	.012	.004 <T	.002 <T	.002 <T
MAR	.050	.006 <T	.026	.008 <T	.010	.008 <T
APR	.010	.014	.034	.014	.016	.014
MAY	.018	.008 <T	.010	.014	.012	.012
JUN	.080	.010	.018	.012	.018	.012
JUL	.044	.006 <T	.016	.008 <T	.008 <T	.008 <T
AUG	.004 <T	.010	.012	.010	.020	.016
SEP	.014	.010	.006 <T	.004 <T	BDL	.018
OCT	.020	.012	.014	.012	.010	.012
NOV	.004 <T	.008 <T	.010	.010	.006	.006 <T
DEC	.014	.012	.020	.010	.012	.014
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	.040	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
FEB	.012	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
MAR	.007	BDL	.001 <T	.001 <T	.002 <T	.001 <T
APR	.047	BDL	.001 <T	.001 <T	.001 <T	.001 <T
MAY	.024	.001 <T	.001 <T	.002 <T	.002 <T	.002 <T
JUN	.031	.001 <T	.001 <T	.001 <T	.001 <T	.001 <T
JUL	.008	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
AUG	BDL	.001 <T	.003 <T	.001 <T	.004 <T	.002 <T
SEP	.007	.002 <T	.002 <T	.002 <T	.002 <T	.002 <T
OCT	.015	.009	.010	.009	.004 <T	.003 <T
NOV	.008	.004 <T	.004 <T	.003 <T	.001	.002 <T
DEC	.009	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
JAN	1.220	1.200	1.240	1.250	1.230	1.200
FEB	.520	.520	.550	.560	.540	.555
MAR	.635	.625	.640	.635	.645	.595
APR	.635	.600	.610	.585	.600	.600

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.815	.780	.815	.800	.940	.770
JUN	.325	.310	.320	.320	.330	.325
JUL	.185	.215	.230	.215	.220	.225
AUG	.100	.105	.100	.080 <T	.175	.120
SEP	.085 <T	.110	.120	.105	.125	.115
OCT	.260	.285	.270	.255	.260	.270
NOV	.355	.345	.330	.335	.350	.325
DEC	.785	.840	.820	.830	.905	.830

NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A	
JAN	.390	.160	.200	.190	.190	.180
FEB	.190	.130	.160	.150	.130	.140
MAR	.360	.160	.200	.150	.140	.190
APR	.260	.130	.270	.150	.180	.150
MAY	.260	.120	.170	.190	.170	.190
JUN	.220	.140	.210	.120	.170	.130
JUL	.300	.140	.200	.150	.150	.120
AUG	.300	.120	.120	.110	.120	.130
SEP	.230	.140	.130	.130	.070 <T	.030 <T
OCT	.110	BDL	.100	.060 <T	BDL	.080 <T
NOV	.290	.080 <T	.100	.090 <T	.090 <T	.100
DEC	.290	.100	.180	.120	.120	.070 <T

PH (DIMENSIONLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.240	7.940	8.050	8.240	8.190	8.220
FEB	8.180	7.950	8.100	8.070	8.040	7.960
MAR	8.190	8.030	8.080	8.110	8.150	8.150
APR	8.200	8.000	8.010	8.030	8.090	8.000
MAY	8.290	8.000	8.080	8.050	8.150	8.070
JUN	8.240	8.150	8.210	8.200	8.180	8.200
JUL	8.210	8.080	8.020	7.920	8.060	8.010
AUG	8.230	8.080	8.060	8.010	8.180	8.150
SEP	8.210	7.990	8.070	8.070	8.120	8.130
OCT	8.250	8.160	8.170	8.160	8.170	8.200
NOV	8.190	7.780	7.950	7.980	8.030	7.990
DEC	8.140	7.970	7.960	7.980	8.000	8.010

PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
JAN	.012	.001 <T	.	.	.	.
FEB	.003	.001 <T	.	.	.	.
MAR	.003	BDL	.	.	.	.
APR	.003	.001 <T	.	.	.	.
MAY	.002 <T	.000 <T	.	.	.	.
JUN	.015	.000 <T	.	.	.	.
JUL	.001 <T	.001 <T	.	.	.	.
AUG	.002	.001 <T	.	.	.	.
SEP	.001 <T	.000 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION MSS 1988

WATER TREATMENT PLANT				DISTRIBUTION SYSTEM		
RAW	TREATED	SITE 1		SITE 2		
		STANDING	FREE FLOW	STANDING	FREE FLOW	
OCT	.002 <T	.001 <T	.	.	.	.
NOV	.005	.001 <T	.	.	.	.
DEC	.003	.001 <T	.	.	.	.
PHOSPHORUS TOTAL (MG/L)		DET'M LIMIT = .002		GUIDELINE = .40 (F2)		
JAN	.060	.003 <T	.	.	.	.
FEB	.013	BDL	.	.	.	.
MAR	.017	.003 <T	.	.	.	.
APR	.017	BDL	.	.	.	.
MAY	.025	.002 <T	.	.	.	.
JUN	.038	.004 <T	.	.	.	.
JUL	.019	.002 <T	.	.	.	.
AUG	.019	BDL	.	.	.	.
SEP	.002 <T	BDL	.	.	.	.
OCT	.007 <T	BDL	.	.	.	.
NOV	.067	BDL	.	.	.	.
DEC	.028	BDL	.	.	.	.
TOTAL SOLIDS (MG/L)		DET'M LIMIT = 1.		GUIDELINE = 500 (A3)		
JAN	200 CRO	207 CRO	205 CRO	205 CRO	203 CRO	202 CRO
SULPHATE ()		DET'M LIMIT = .200		GUIDELINE = 500. (A3)		
AUG	18.780	28.900	28.280	27.940	28.650	28.230
SEP	17.710	27.530	30.300	30.600	29.930	29.690
OCT	18.200	28.600	28.000	27.800	28.200	28.400
NOV	16.260	30.150	26.600	26.470	27.680	27.640
DEC	22.500	35.000	36.000	35.000	37.000	36.500
TURBIDITY (FTU)		DET'M LIMIT = .02		GUIDELINE = 1.00 (A1)		
JAN	54.000	.250	.250	.200	.290	.090 <T
FEB	4.500	.160	.160	.120	.180	.100
MAR	3.300	.050 <T	3.000	.150	.160	.110
APR	4.700	.090 <T	.360	.260	.100 <T	.100 <T
MAY	7.000	.140	.250	.160	.200	.150
JUN	3.600	.080 <T	.200	.160	.300	.120
JUL	4.100	.400	.750	.830	.460	.340
AUG	5.100	.290	.670	.590	.490	.400
SEP	2.000	.330	.720	.450	.570	.380
OCT	1.400	.230	.320	.320	.620	.240 <T
NOV	44.000	.240 <T	.380	.330	.140 <T	.190 <T
DEC	.330	.270	.270	.330	.490	.530

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
RAW	TREATED	SITE 1		SITE 2		
		STANDING	FREE FLOW	STANDING	FREE FLOW	
METALS						
SILVER (UG/L)		DET'M LIMIT = .020		GUIDELINE = 50. (A1)		
JAN	BDL	BDL	.020 <T	BDL	.020 <T	.080 <T
FEB	.020 <T	11S	.140 <T	.040 <T	.050 <T	.030 <T
MAR	BDL	.080 <T	.070 <T	.020 <T	.030 <T	BDL
APR	BDL	BDL	BDL	BDL	1.700	BDL
MAY	BDL	.070 <T	.320 <T	BDL	.040 <T	BDL
JUN	BDL	BDL	.030 <T	BDL	.060 <T	BDL
JUL	BDL	BDL	.170 <T	BDL	.050 <T	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	.040 <T	BDL	BDL	.040 <T	BDL
NOV	BDL	BDL	.810	.070 <T	.050 <T	.030 <T
DEC	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)		DET'M LIMIT = .050		GUIDELINE = 100.(A4)		
JAN	522.000	17.400	15.080	11.600	16.240	12.760
FEB	96.280	11S	23.200	18.560	23.200	17.400
MAR	55.680	19.720	18.560	16.240	22.040	16.240
APR	106.720	27.840	23.200	22.040	24.360	20.880
MAY	116.000	33.640	26.680	24.360	27.840	26.680
JUN	97.440	61.480	47.560	45.240	59.160	49.880
JUL	82.360	127.600	82.360	89.320	83.520	97.440
AUG	88.160	139.200	63.800	64.960	109.040	100.920
SEP	98.600	75.400	62.640	53.360	59.160	60.320
OCT	55.680	63.800	54.520	55.680	54.520	53.360
NOV	371.200	20.880	24.360	23.200	25.520	22.040
DEC	220.400	23.200	20.880	18.560	22.040	19.720
ARSENIC (UG/L)		DET'M LIMIT = 0.050		GUIDELINE = 50.0 (A1)		
JAN	.830 <T	.300 <T	.320 <T	.220 <T	.290 <T	.330 <T
FEB	.570 <T	11S	.260 <T	.220 <T	.210 <T	.220 <T
MAR	.290 <T	BDL	BDL	BDL	BDL	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.490 <T	.180 <T	.250 <T	.270 <T	.190 <T	.270 <T
JUN	.600 <T	.220 <T	.250 <T	.180 <T	.270 <T	.160 <T
JUL	.770 <T	.250 <T	.240 <T	.290 <T	.110 <T	.200 <T
AUG	1.100	.270 <T	BDL	.220 <T	.100 <T	BDL
SEP	.750 <T	.240 <T	.370 <T	.180 <T	.250 <T	.270 <T
OCT	.800 <T	.500 <T	.360 <T	.350 <T	.350 <T	.270 <T
NOV	.720 <T	.080 <T	.090 <T	.150 <T	.120 <T	.100 <T
DEC	.780 <T	.220 <T	.190 <T	.200 <T	.080 <T	.130 <T
BARIUM (UG/L)		DET'M LIMIT = 0.020		GUIDELINE = 1000. (A1)		
JAN	22.000	16.000	16.000	16.000	16.000	17.000
FEB	19.000	11S	16.000	15.000	15.000	15.000
MAR	16.000	14.000	15.000	14.000	14.000	14.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	18.000	16.000	16.000	16.000	16.000	17.000
MAY	18.000	16.000	16.000	16.000	16.000	16.000
JUN	17.000	16.000	17.000	17.000	16.000	16.000
JUL	17.000	17.000	17.000	17.000	17.000	17.000
AUG	18.000	17.000	17.000	17.000	17.000	17.000
SEP	17.000	16.000	16.000	16.000	16.000	15.000
OCT	18.000	18.000	18.000	18.000	18.000	18.000
NOV	22.000	17.000	16.000	16.000	16.000	16.000
DEC	19.000	18.000	19.000	18.000	18.000	18.000
BORON (UG/L)		DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)		
JAN	17.000 <T	17.000 <T	19.000 <T	17.000 <T	19.000 <T	20.000
FEB	19.000 <T	11S	23.000	22.000	23.000	21.000
MAR	19.000 <T	18.000 <T	19.000 <T	18.000 <T	39.000	19.000 <T
APR	20.000	19.000 <T	21.000	19.000 <T	23.000	20.000
MAY	39.000	16.000 <T	16.000 <T	24.000	24.000	31.000
JUN	19.000 <T	17.000 <T	34.000	21.000	33.000	17.000 <T
JUL	15.000 <T	16.000 <T	17.000 <T	16.000 <T	16.000 <T	15.000 <T
AUG	37.000	38.000	22.000	36.000	37.000	21.000
SEP	19.000 <T	44.000	18.000 <T	18.000 <T	18.000 <T	16.000 <T
OCT	40.000	43.000	43.000	43.000	40.000	32.000
NOV	32.000	32.000	36.000	23.000	34.000	34.000
DEC	44.000	46.000	38.000	44.000	46.000	44.000
BERYLLIUM (UG/L)		DET'N LIMIT = 0.010		GUIDELINE = .20 (H)		
JAN	BDL	BDL	BDL	BDL	BDL	BDL
FEB	.010 <T	11S	.010 <T	.030 <T	.020 <T	BDL
MAR	BDL	.020 <T	.020 <T	.050 <T	.040 <T	.010 <T
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.040 <T	BDL	.060 <T	.050 <T	BDL	.100 <T
JUN	.020 <T	.020 <T	.020 <T	.020 <T	.030 <T	BDL
JUL	.040 <T	.020 <T	BDL	BDL	BDL	.040 <T
AUG	BDL	BDL	BDL	.030 <T	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	.060 <T	.040 <T	.120 <T	.090 <T	.060 <T	.020 <T
NOV	BDL	.060 <T	.040 <T	.090 <T	.070 <T	.090 <T
DEC	.130 <T	.020 <T	.040 <T	.060 <T	.070 <T	.050 <T
CADMIUM (UG/L)		DET'N LIMIT = 0.050		GUIDELINE = 5.000 (A1)		
JAN	1.500	BDL	.050 <T	BDL	.060 <T	.060 <T
FEB	BDL	11S	.150 <T	BDL	BDL	BDL
MAR	BDL	BDL	BDL	BDL	BDL	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	BDL	BDL	.080 <T	BDL	BDL	BDL
JUN	BDL	BDL	.080 <T	BDL	.150 <T	BDL
JUL	BDL	BDL	.090 <T	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	.080 <T	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
COBALT (UG/L)	)		DET'N LIMIT = 0.020		GUIDELINE = 1000 (H)	
JAN	.600 <T	.080 <T	.100 <T	.070 <T	.160 <T	.120 <T
FEB	.110 <T	11S	.070 <T	.030 <T	.050 <T	.040 <T
MAR	.070 <T	.020 <T	.050 <T	BDL	1.900	.160 <T
APR	.560 <T	.470 <T	.510 <T	.500 <T	.500 <T	.490 <T
MAY	.170 <T	.080 <T	.070 <T	.030 <T	.150 <T	.100 <T
JUN	.200 <T	.080 <T	.080 <T	.070 <T	.150 <T	.080 <T
JUL	.160 <T	.080 <T	.060 <T	.060 <T	.150 <T	.050 <T
AUG	.200 <T	.130 <T	.150 <T	.120 <T	.190 <T	.130 <T
SEP	.110 <T	.080 <T	.170 <T	.110 <T	.190 <T	.130 <T
OCT	.160 <T	.210 <T	.130 <T	.120 <T	.240 <T	.110 <T
NOV	.820 <T	.180 <T	.160 <T	.140 <T	.210 <T	.140 <T
DEC	.390 <T	.140 <T	.130 <T	.180 <T	.150 <T	.080 <T
CHROMIUM (UG/L)	)		DET'N LIMIT = 0.100		GUIDELINE = 50. (A1)	
JAN	1.100	BDL	.200 <T	.120 <T	.170 <T	.200 <T
FEB	.520 <T	11S	.350 <T	.260 <T	.410 <T	.300 <T
MAR	.940 <T	.300 <T	.270 <T	.250 <T	.210 <T	.170 <T
APR	.960 <T	.840 <T	.430 <T	.480 <T	1.300	.530 <T
MAY	4.700	.420 <T	.580 <T	2.000	1.800	3.400
JUN	.850 <T	.300 <T	2.100	.620 <T	2.600	.300 <T
JUL	.460 <T	.170 <T	.290 <T	.240 <T	.300 <T	.360 <T
AUG	3.600	3.200	.580 <T	3.000	3.100	1.000 <T
SEP	.470 <T	3.000	.310 <T	.280 <T	.320 <T	.330 <T
OCT	4.700	4.800	5.100	5.200	4.600	3.000
NOV	3.100	5.100	4.700	2.100	4.800	5.100
DEC	5.500	5.200	3.600	5.000	5.000	5.200
COPPER (UG/L)	)		DET'N LIMIT = .100		GUIDELINE = 1000 (A3)	
JAN	2.200	2.300	69.000	21.000	25.000	7.600
FEB	1.300	11S	140.000	22.000	95.000	8.000
MAR	.950 <T	2.000	120.000	16.000	410.000	46.000
APR	1.300	2.300	200.000	16.000	64.000	9.100
MAY	1.400	2.300	120.000	23.000	120.000	8.900
JUN	1.200	2.400	200.000	20.000	81.000	7.900
JUL	1.200	4.500	130.000	33.000	36.000	6.300
AUG	1.100	3.200	160.000	18.000	27.000	5.900
SEP	1.200	2.800	230.000	31.000	32.000	7.300
OCT	.950 <T	1.900	110.000	17.000	44.000	7.500
NOV	2.700	1.900	130.000	21.000	76.000	9.000
DEC	2.000	1.600	220.000	15.000	51.000	8.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

IRON (UG/L)	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
			DET'N LIMIT = 4.000		GUIDELINE = 300. (A3)	
JAN	850.000	BDL	41.000	29.000 <T	9.000 <T	5.900 <T
FEB	120.000	IIS	36.000 <T	34.000 <T	22.000 <T	18.000 <T
MAR	65.000	BDL	18.000 <T	18.000 <T	9.400 <T	7.300 <T
APR	150.000	BDL	22.000 <T	17.000 <T	7.300 <T	6.600 <T
MAY	240.000	BDL	27.000 <T	14.000 <T	9.300 <T	7.400 <T
JUN	220.000	16.000 <T	17.000 <T	13.000 <T	18.000 <T	18.000 <T
JUL	150.000	14.000 <T	27.000 <T	21.000 <T	8.000 <T	8.400 <T
AUG	130.000	BDL	170.000	140.000	5.300 <T	BDL
SEP	110.000	BDL	75.000	18.000 <T	11.000 <T	BDL
OCT	71.000	BDL	12.000 <T	14.000 <T	BDL	BDL
NOV	970.000	BDL	23.000 <T	24.000 <T	11.000 <T	9.800 <T
DEC	410.000	BDL	16.000 <T	10.000 <T	6.200 <T	BDL
MERCURY (UG/L)			DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)	
JAN	.010	.010	.	BDL	.	.010
FEB	.010	.020	.	.020	.	.010
MAR	BDL	.010	.	.010	.	.010
APR	.010	.010	.	.010	.	.010
MAY	.010	.010	.	.010	.	BDL
JUN	.020 <T	.020 <T	.	BDL	.	BDL
JUL	.020 <T	.020 <T	.	.020 <T	.	BDL
AUG	.050 <T	.040 <T	.	.020 <T	.	.040 <T
SEP	.020 <T	.020 <T	.	.020 <T	.	.020 <T
OCT	.020 <T	.020 <T	.	.020 <T	.	.020 <T
NOV	.050 <T	.060	.	.060	.	.020 <T
DEC	.040 <T	.040 <T	.	.020 <T	.	.030 <T
MANGANESE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)	
JAN	26.000	2.900	4.200	3.700	1.200	1.000
FEB	3.700	IIS	2.900	2.700	.860	.740
MAR	3.100	1.300	2.200	1.900	5.900	1.000
APR	5.600	1.400	2.700	2.400	.680	.550
MAY	11.000	1.300	2.300	2.000	1.000	.630
JUN	14.000	3.900	4.200	3.500	2.700	1.300
JUL	8.900	1.000	2.500	2.200	.960	.670
AUG	11.000	1.000	8.400	8.000	.830	.510
SEP	6.700	.920	3.500	2.000	.620	.340 <T
OCT	4.300	.640	1.300	1.000	.560	.220 <T
NOV	43.000	3.200	2.000	1.800	.670	.540
DEC	20.000	1.500	1.900	1.300	.640	.550
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 500 (H)	
JAN	.360 <T	.850	.790	.830	.860	.930
FEB	.800	IIS	.810	.770	.810	.780
MAR	.780	.900	.810	.810	.810	.800
APR	.760	.870	.820	.860	.870	.910

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.730	.880	.790	.830	.800	.840
JUN	.580	.780	.670	.700	.680	.730
JUL	.630	.750	.680	.680	.770	.770
AUG	.910	.900	.740	.750	.800	.820
SEP	.670	.760	.780	.760	.820	.770
OCT	.670	.900	.720	.800	.850	.890
NOV	.160 <T	.660	.630	.680	.700	.700
DEC	.350 <T	.780	.760	.740	.730	.760

NICKEL (UG/L)

DET'N LIMIT = 0.100

GUIDELINE = 50. (F3)

JAN	2.500	.750 <T	1.400	.860 <T	1.100 <T	.980 <T
FEB	.840 <T	11S	1.700	.110 <T	.270 <T	.510 <T
MAR	.980 <T	.380 <T	1.200 <T	.490 <T	4.000	1.000 <T
APR	1.800	1.500	3.300	1.300 <T	2.600	1.400
MAY	1.700 <T	1.600 <T	2.300	.990 <T	1.900 <T	1.300 <T
JUN	1.100 <T	.800 <T	2.800	.620 <T	3.300	.760 <T
JUL	1.100 <T	.460 <T	2.200	.690 <T	1.500 <T	.870 <T
AUG	.690 <T	.250 <T	5.800	.290 <T	.610 <T	BDL
SEP	.300 <T	.120 <T	22.000	1.000 <T	.940 <T	.380 <T
OCT	1.700 <T	1.300 <T	7.800	1.500 <T	2.400	1.600 <T
NOV	.180 <T	BDL	6.600	BDL	BDL	BDL
DEC	1.600 <T	.690 <T	11.000	1.300 <T	1.200 <T	.780 <T

LEAD (UG/L)

DET'N LIMIT = 0.050

GUIDELINE = 50. (A1)

JAN	2.400	.150 <T	4.100	.480	1.200	.290
FEB	.330	11S	2.900	.570	1.700	.260
MAR	.170 <T	.170 <T	1.700	.230	1.700	.270
APR	.330	.080 <T	2.400	.330	1.200	.130 <T
MAY	.620	.340	2.600	.450	1.100	.180 <T
JUN	.590	.110 <T	4.600	.490	8.500	.260
JUL	.410	.340	3.600	.800	1.200	.190 <T
AUG	.390	.160 <T	3.000	.400	1.200	.280
SEP	.330	.210	7.700	.710	1.200	.250
OCT	.410	.150 <T	2.000	.560	1.100	.260
NOV	2.400	.130 <T	34.000	.550	1.300	.250
DEC	1.700	.110 <T	2.800	.370	.920	.240

ANTIMONY (UG/L)

DET'N LIMIT = .050

GUIDELINE = 146. (D4)

JAN	.140 <T	.170 <T	.160 <T	.160 <T	.150 <T	.170 <T
FEB	.180 <T	11S	.240	.150 <T	.170 <T	.180 <T
MAR	.140 <T	.150 <T	.190 <T	.130 <T	.160 <T	.130 <T
APR	.190 <T	.160 <T	.180 <T	.120 <T	.150 <T	.190 <T
MAY	.150 <T	.200 <T	.190 <T	.200 <T	.170 <T	.160 <T
JUN	.160 <T	.130 <T	.160 <T	.130 <T	.160 <T	.130 <T
JUL	.190 <T	.200 <T	.180 <T	.190 <T	.150 <T	.180 <T
AUG	.470	.460	.590	.600	.610	.530
SEP	.450	.440	.540	.530	.560	.530

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION VES 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.610	.700	.600	.610	.620	.600
NOV	.310	.590	.610	.590	.640	.550
DEC	.300	.310	.360	.320	.290	.290
SELENIUM (UG/L)		DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)		
JAN	.470 <T	.610 <T	.260 <T	.810 <T	1.200 <T	.690 <T
FEB	.350 <T	11S	.560 <T	1.200 <T	1.300 <T	1.500 <T
MAR	.650 <T	.780 <T	.910 <T	.890 <T	1.300 <T	.690 <T
APR	.660 <T	1.300 <T	1.400 <T	1.900 <T	1.300 <T	1.900 <T
MAY	.760 <T	1.800 <T	2.100 <T	2.200 <T	3.700 <T	2.400 <T
JUN	1.300 <T	.380 <T	1.800 <T	1.000 <T	1.500 <T	.910 <T
JUL	NOL	.780 <T	2.500 <T	1.800 <T	1.800 <T	1.100 <T
AUG	.810 <T	1.400 <T	1.700 <T	1.200 <T	1.700 <T	2.100 <T
SEP	1.100 <T	.990 <T	.380 <T	.750 <T	1.200 <T	2.400 <T
OCT	NOL	2.600 <T	4.000 <T	5.000 <T	3.500 <T	4.300 <T
NOV	NOL	1.500 <T	2.900 <T	1.200 <T	2.500 <T	2.500 <T
DEC	1.400 <T	2.300 <T	3.800 <T	2.900 <T	3.000 <T	4.200 <T
STRONTIUM (UG/L)		DET'N LIMIT = .050		GUIDELINE = 2000. (N)		
JAN	150.000	150.000	140.000	140.000	140.000	150.000
FEB	160.000	11S	130.000	130.000	130.000	130.000
MAR	140.000	140.000	140.000	140.000	130.000	130.000
APR	160.000	160.000	160.000	160.000	160.000	160.000
MAY	140.000	140.000	140.000	140.000	150.000	140.000
JUN	130.000	120.000	120.000	120.000	130.000	130.000
JUL	120.000	120.000	120.000	120.000	130.000	120.000
AUG	130.000	120.000	120.000	120.000	130.000	130.000
SEP	130.000	130.000	130.000	130.000	130.000	140.000
OCT	130.000	130.000	130.000	140.000	140.000	140.000
NOV	120.000	120.000	120.000	120.000	120.000	120.000
DEC	120.000	130.000	140.000	130.000	140.000	130.000
TITANIUM (UG/L)		DET'N LIMIT = .050		GUIDELINE = N/A		
JAN	7.100	2.600	2.700	2.500	2.700	2.800
FEB	7.800	11S	5.300	5.400	5.800	6.000
MAR	7.200	5.700	6.200	6.500	6.600	6.200
APR	6.600	3.500	4.100	4.400	4.400	3.900
MAY	4.900	1.500 <T	2.100	1.900 <T	2.300	2.700
JUN	4.700	2.700	3.000	2.700	3.000	2.900
JUL	4.400	3.000	3.000	3.300	3.200	3.100
AUG	9.800	8.600	7.800	8.200	8.300	8.000
SEP	6.900	4.100	4.300	4.600	4.600	4.300
OCT	4.400	2.700	3.300	3.100	2.800	3.100
NOV	6.500	1.700 <T	1.700 <T	1.700 <T	2.000 <T	1.700 <T
DEC	7.600	3.900	3.800	3.800	3.700	3.600
THALLIUM (UG/L)		DET'N LIMIT = .010		GUIDELINE = 13. (D4)		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION VSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	.020 <T	.010 <T	.010 <T	.010 <T	.010 <T	.030 <T
FEB	.040 <T	118	.030 <T	.010 <T	.030 <T	.020 <T
MAR	.010 <T	NOL	.010 <T	NOL	NOL	NOL
APR	NOL	NOL	NOL	NOL	NOL	NOL
MAY	NOL	NOL	NOL	NOL	NOL	NOL
JUN	NOL	NOL	NOL	NOL	NOL	NOL
JUL	NOL	NOL	NOL	NOL	NOL	NOL
AUG	.020 <T	.020 <T	NOL	NOL	NOL	NOL
SEP	NOL	.020 <T	NOL	NOL	NOL	NOL
OCT	NOL	NOL	NOL	NOL	NOL	NOL
NOV	.060 <T	.020 <T	.030 <T	NOL	NOL	NOL
DEC	.040 <T	.020 <T	.050 <T	.020 <T	NOL	NOL
URANIUM (UG/L)			DET'M LIMIT = .020		GUIDELINE = 20. (A2)	
JAN	.500	.100	.090 <T	.080 <T	.100 <T	.130 <T
FEB	.370	118	.180 <T	.130 <T	.110 <T	.120 <T
MAR	.320	.130 <T	.090 <T	.110 <T	.050 <T	.110 <T
APR	.350	.110 <T	.090 <T	.070 <T	.080 <T	.060 <T
MAY	.420	.150 <T	.120 <T	.140 <T	.130 <T	.110 <T
JUN	.280	.050 <T	.080 <T	.070 <T	.070 <T	.060 <T
JUL	.260	.050 <T	.060 <T	.070 <T	.050 <T	.090 <T
AUG	.270	.060 <T	.060 <T	.090 <T	.070 <T	.070 <T
SEP	.260	.030 <T	NOL	.030 <T	.040 <T	NOL
OCT	.290	.080 <T	.030 <T	.060 <T	.040 <T	.030 <T
NOV	.260	NOL	.030 <T	.040 <T	.030 <T	.030 <T
DEC	.310	.080 <T	.070 <T	.060 <T	.050 <T	.090 <T
VANADIUM (UG/L)			DET'M LIMIT = .050		GUIDELINE = 100 (N)	
JAN	1.300	.550	.440	.390 <T	.440	.510
FEB	.290 <T	118	.360 <T	.320 <T	.440	.430
MAR	.240 <T	.350 <T	.310 <T	.290 <T	.280 <T	.300 <T
APR	.440	.500	.440	.450	.500	.500
MAY	.460 <T	.480 <T	.420 <T	.430 <T	.510	.490 <T
JUN	.430 <T	.540	.520	.470 <T	.580	.500 <T
JUL	.590	.830	.710	.740	.770	.810
AUG	.720	.990	.700	.540	.900	.920
SEP	.660	.820	.970	.670	.780	.730
OCT	.580	.770	.750	.740	.770	.710
NOV	1.300	.630	.610	.550	.650	.590
DEC	.870	.650	.570	.540	.630	.630
ZINC (UG/L)			DET'M LIMIT = .001		GUIDELINE = 5000. (A3)	
JAN	7.900	1.400	4.400	1.100	15.000	2.400
FEB	2.500	118	5.400	.970 <T	15.000	2.000
MAR	1.600	1.400	5.300	1.100	15.000	1.700
APR	2.500	1.900	4.900	1.300	11.000	1.700
MAY	2.600	1.600	4.200	1.300	9.400	1.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WDS 1988

	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	2.200	1.300	6.700	.780 <T	42.000	.900 <T
JUL	1.900	2.400	8.100	1.600	9.700	1.200
AUG	1.500	2.300	5.100	.960 <T	8.300	1.200
SEP	1.300	2.900	10.000	1.300	13.000	1.700
OCT	1.100	2.000	4.700	.940 <T	17.000	1.300
NOV	8.200	1.600	5.900	1.100	11.000	1.300
DEC	4.900	1.500	6.400	1.400	5.400	1.800

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION VSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

PAH						
BENZO(K) FLUORANTHENE (NG/L)			DET'N LIMIT = N/A		GUIDELINE = 2.8 (D4T)	
JAN	NDL	NDL	.	.	.	.
FEB	NDL	NDL	.	.	.	.
MAR	NDL	NDL	.	.	.	.
APR	NDL	NDL	.	.	.	.
MAY	NDL	NDL	.	.	.	.
JUN	NDL	NDL	.	.	.	.
JUL	NDL	NDL	.	.	.	.
AUG	NDL	NDL	.	.	.	.
SEP	NDL	NDL	.	.	.	.
OCT	NDL	NDL	.	.	.	.
NOV	1,000 <1	NDL	.	.	.	.
DEC	NDL	NDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED		SITE 1		SITE 2	
				STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB							
ALPHA BHC (NG/L)		DET'N LIMIT = 1.000				GUIDELINE = 700 (G)	
JAN	2.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T	
FEB	2.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T	
MAR	BDL	BDL	.	1.000 <T	.	1.000 <T	
APR	BDL	BDL	.	BDL	.	BDL	
MAY	BDL	1.000 <T	.	1.000 <T	.	BDL	
JUN	BDL	BDL	.	BDL	.	BDL	
JUL	BDL	BDL	.	BDL	.	BDL	
AUG	1.000 <T	BDL	.	1LA	.	3.000 <T	
SEP	BDL	BDL	.	ISM	.	BDL	
OCT	1.000 <T	BDL	.	BDL	.	BDL	
NOV	3.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T	
DEC	BDL	BDL	.	BDL	.	4.000 <T	
LINDANE (NG/L)		DET'N LIMIT = 1.000				GUIDELINE = 4000 (A1)	
JAN	BDL	BDL	.	BDL	.	BDL	
FEB	BDL	BDL	.	BDL	.	BDL	
MAR	4.000 <T	BDL	.	1.000 <T	.	BDL	
APR	BDL	BDL	.	BDL	.	BDL	
MAY	BDL	BDL	.	BDL	.	BDL	
JUN	BDL	BDL	.	BDL	.	BDL	
JUL	BDL	BDL	.	BDL	.	BDL	
AUG	BDL	BDL	.	1LA	.	2.000 <T	
SEP	BDL	BDL	.	ISM	.	BDL	
OCT	BDL	BDL	.	BDL	.	BDL	
NOV	1.000 <T	BDL	.	BDL	.	BDL	
DEC	BDL	BDL	.	BDL	.	BDL	
ATRAZINE (NG/L)		DET'N LIMIT = 50.00				GUIDELINE = 60000 (B3)	
JAN	BDL	BDL	.	180.000 <T	.	BDL	
FEB	BDL	BDL	.	BDL	.	BDL	
MAR	BDL	BDL	.	BDL	.	BDL	
APR	120.000 <T	120.000 <T	.	BDL	.	BDL	
MAY	BDL	BDL	.	90.000 <T	.	70.000 <T	
JUN	BDL	BDL	.	BDL	.	BDL	
JUL	BDL	BDL	.	BDL	.	BDL	
AUG	BDL	BDL	.	BDL	.	BDL	
SEP	BDL	BDL	.	BDL	.	BDL	
OCT	BDL	BDL	.	BDL	.	BDL	
NOV	BDL	BDL	.	BDL	.	BDL	
DEC	BDL	BDL	.	BDL	.	BDL	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

PHENOLICS						
PHENOLICS (UG/L)			DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	BDL	BDL	.	.	.	.
FEB	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	BDL	.	.	.	.
JUN	.800 <T	.800 <T	.	.	.	.
JUL	.800 <T	.400 <T	.	.	.	.
AUG	BDL	BDL	.	.	.	.
SEP	BDL	BDL	.	.	.	.
OCT	1.000 <T	.600 <T	.	.	.	.
NOV	.200 <T	BDL	.	.	.	.
DEC	.800	.600 <T	.	.	.	.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW		TREATED		SITE 1		SITE 2	
				STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES							
BENZENE (UG/L)				DET'N LIMIT = .050		GUIDELINE = 5.0 (B1)	
JAN	NOL	NOL	.	NOL	.	NOL	
APR	NOL	NOL	.	NOL	.	NOL	
MAY	NOL	NOL	.	NOL	.	NOL	
JUN	NOL	NOL	.	NOL	.	NOL	
JUL	.050 <T	NOL	.	NOL	.	NOL	.
AUG	NOL	NOL	.	NOL	.	NOL	
SEP	NOL	NOL	.	NOL	.	NOL	
OCT	NOL	NOL	.	NOL	.	NOL	
NOV	NOL	NOL	.	NOL	.	NOL	
DEC	NOL	NOL	.	NOL	.	NOL	
TOLUENE (UG/L)				DET'N LIMIT = .050		GUIDELINE = 24.0 (B4)	
JAN	NOL	NOL	.	NOL	.	NOL	
APR	NOL	NOL	.	NOL	.	NOL	
MAY	NOL	.050 <T	.	NOL	.	NOL	
JUN	NOL	NOL	.	NOL	.	NOL	.100 <T
JUL	NOL	.050 <T	.	NOL	.	NOL	.
AUG	NOL	NOL	.	NOL	.	NOL	.100 <T
SEP	NOL	NOL	.	NOL	.	NOL	
OCT	NOL	NOL	.	NOL	.	NOL	
NOV	NOL	NOL	.	NOL	.	NOL	
DEC	NOL	.100 <T	.	.050 <T	.	NOL	.100 <T
ETHYLBENZENE (UG/L)				DET'N LIMIT = .050		GUIDELINE = 2.4 (B4)	
JAN	NOL	.050 <T	.	NOL	.	NOL	.050 <T
APR	NOL	.050 <T	.	NOL	.	NOL	
MAY	NOL	.100 <T	.	NOL	.	NOL	.050 <T
JUN	NOL	.100 <T	.	NOL	.	NOL	.150 <T
JUL	NOL	.100 <T	.	.100 <T	.	NOL	.
AUG	NOL	.100 <T	.	NOL	.	NOL	.100 <T
SEP	.050 <T	NOL	.	.050 <T	.	NOL	
OCT	NOL	.150 <T	.	.100 <T	.	NOL	.050 <T
NOV	NOL	.100 <T	.	NOL	.	NOL	.050 <T
DEC	NOL	.050 <T	.	.050 <T	.	NOL	.050 <T
M-XYLENE (UG/L)				DET'N LIMIT = .100		GUIDELINE = 300 (B4)	
JAN	NOL	NOL	.	NOL	.	NOL	
APR	NOL	NOL	.	NOL	.	NOL	
MAY	NOL	NOL	.	NOL	.	NOL	
JUN	NOL	NOL	.	NOL	.	NOL	.100 <T
JUL	.100 <T	NOL	.	NOL	.	NOL	.
AUG	NOL	NOL	.	NOL	.	NOL	.100 <T
SEP	NOL	NOL	.	NOL	.	NOL	
OCT	NOL	NOL	.	NOL	.	NOL	
NOV	NOL	NOL	.	NOL	.	NOL	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	BDL	BDL	.	BDL	.	BDL
O-XYLENE (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = 300 (B4)	
JAN	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	.050 <T
JUN	BDL	BDL	.	BDL	.	.050 <T
JUL	.050 <T	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	.050 <T	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	.050 <T
STYRENE (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = 46.5 (D2)	
OCT	BDL	BDL	.	.100 <T	.	.050 <T
NOV	BDL	BDL	.	.100 <T	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
CHLOROFORM (UG/L)						
			DET'N LIMIT = .100		GUIDELINE = 350 (A1+)	
JAN	BDL	11.700	.	8.700	.	9.700
APR	BDL	17.900	.	16.000	.	16.800
MAY	BDL	18.100	.	17.400	.	19.800
JUN	BDL	8.800	.	7.600	.	7.200
JUL	.200 <T	13.500	.	13.400	.	.
AUG	.300 <T	17.600	.	13.300	.	17.900
SEP	BDL	15.800	.	11.900	.	15.000
OCT	BDL	16.300	.	15.000	.	12.000
NOV	.200 <T	8.100	.	8.200	.	9.200
DEC	BDL	10.400	.	11.200	.	12.800
111, TRICHLOROETHANE (UG/L)						
			DET'N LIMIT = .020		GUIDELINE = 200 (D1)	
JAN	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	.100 <T	BDL	.	BDL	.	BDL
JUN	.080 <T	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	.
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)						
			DET'N LIMIT = .050		GUIDELINE = 350 (A1+)	
JAN	BDL	10.600	.	8.300	.	8.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION WSS 1988

WATER TREATMENT PLANT					DISTRIBUTION SYSTEM	
RAW		TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	BDL	12.050	.	10.850	.	11.050
MAY	BDL	12.600	.	12.100	.	9.700
JUN	BDL	8.250	.	6.450	.	6.150
JUL	.150 <T	9.950	.	9.350	.	.
AUG	.200 <T	12.100	.	11.300	.	12.700
SEP	BDL	9.600	.	8.250	.	9.550
OCT	BDL	9.250	.	10.250	.	8.300
NOV	BDL	7.250	.	7.550	.	7.500
DEC	BDL	9.150	.	9.900	.	10.050
CHLORODIBROMOMETHANE (UG/L)			DET'N LIMIT = .100		GUIDELINE = 350 (A1+)	
JAN	BDL	5.500	.	5.600	.	5.600
APR	BDL	7.500	.	8.600	.	6.100
MAY	BDL	8.200	.	7.800	.	4.600
JUN	BDL	6.500	.	4.900	.	5.500
JUL	BDL	6.600	.	6.400	.	.
AUG	.100 <T	10.200	.	9.900	.	13.300
SEP	BDL	5.100	.	6.400	.	6.900
OCT	BDL	6.100	.	9.600	.	5.500
NOV	BDL	5.100	.	5.400	.	5.200
DEC	BDL	6.400	.	7.400	.	6.800
T-CHLOROETHYLENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 10.0 (C2)	
JAN	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	.050 <T	.	.050 <T	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	.050 <T	.	.050 <T	.	.
AUG	BDL	.100 <T	.	BDL	.	.200 <T
SEP	BDL	.100 <T	.	.100 <T	.	.150 <T
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	.050 <T	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
BROMOFORM (UG/L)			DET'N LIMIT = .200		GUIDELINE = 350 (A1+)	
JAN	BDL	BDL	.	BDL	.	BDL
APR	BDL	.800 <T	.	.800 <T	.	.800 <T
MAY	BDL	.600 <T	.	.800 <T	.	.400 <T
JUN	BDL	.600 <T	.	.400 <T	.	.400 <T
JUL	BDL	.600 <T	.	.400 <T	.	.
AUG	BDL	.800 <T	.	1.000 <T	.	1.200 <T
SEP	BDL	.800 <T	.	1.000 <T	.	.800 <T
OCT	BDL	1.200 <T	.	1.400 <T	.	1.000 <T
NOV	BDL	1.200 <T	.	1.200 <T	.	1.200 <T
DEC	BDL	1.200 <T	.	1.400 <T	.	1.200 <T
TOTL TRINALOMETHANES (UG/L)			DET'N LIMIT = .500		GUIDELINE = 350 (A1)	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM UNION VSS 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	27.800	.	22.800	.	23.900
APR	BDL	38.250	.	36.250	.	34.750
MAY	BDL	39.500	.	38.100	.	34.500
JUN	BDL	24.150	.	19.350	.	19.250
JUL	BDL	30.650	.	29.550	.	.
AUG	.600 <T	40.700	.	35.500	.	45.100
SEP	BDL	31.300	.	27.550	.	32.250
OCT	BDL	32.850	.	36.250	.	26.800
NOV	BDL	21.650	.	22.350	.	23.100
DEC	BDL	27.150	.	29.900	.	30.850

Table 6

SCAN/PARAMETER	UNIT	DETECTION	
		LIMIT	GUIDELINE
BACTERIOLOGICAL			
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
P/A BOTTLE		0	0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,8-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	5000. (B1)
PENTACHLOROPHENOL	NG/L	50.	60000. (B1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	°C	N/A	<15 °C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	DETECTION		
	UNIT	LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40 (F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)

METALS

ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	146. (D4)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)

PHENOLICS

PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
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PESTICIDES & PCB

ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE (LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADIX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	100000. (A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE (THIODAN SULPHATE)	NG/L	4.0	N/A
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)

SCAN/PARAMETER	DETECTION		
	UNIT	LIMIT	GUIDELINE
HEPTACHLOR	NG/L	1.0	3000. (A1)
METOLACHLOR	NG/L	500.	50000. (B3)
MIREX	NG/L	5.0	N/A
OXYCHLORDANE	NG/L	2.0	N/A
O, P-DDT	NG/L	5.0	30000. (A1)
PCB	NG/L	20.0	3000. (A2)
O, P-DDD	NG/L	5.0	N/A
PPDDE	NG/L	1.0	30000. (A1)
PPDDT	NG/L	5.0	30000. (A1)
ATRATONE	NG/L	50.	N/A
ALACHLOR	NG/L	500.	35000. (D2)
PROMETONE	NG/L	50.	52500. (D3)
PROPAZINE	NG/L	50.	16000. (D2)
PROMETRYNE	NG/L	50.	1000. (B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000. (B2)
SIMAZINE	NG/L	50.	10000. (B3)

POLYAROMATIC HYDROCARBONS

PHENANTHRENE	NG/L	10.0	N/A
ANTHRACENE	NG/L	1.0	N/A
FLUORANTHENE	NG/L	20.0	42000. (D4)
PYRENE	NG/L	20.0	N/A
BENZO(A)ANTHRACENE	NG/L	20.0	N/A
CHRYSENE	NG/L	50.0	N/A
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A
BENZO(E)PYRENE	NG/L	50.0	N/A
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A
PERYLENE	NG/L	10.0	N/A
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A
BENZO(A)PYRENE	NG/L	5.0	10. (B1)
BENZO(G, H, I)PERYLENE	NG/L	20.0	N/A
DIBENZO(A, H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1, 2, 3-C, D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A

SPECIFIC PESTICIDES

TOXAPHENE	NG/L	N/A	5000. (A1)
2, 4, 5-TRICHLOROBUTYRIC ACID (2, 4, 5-T)	NG/L	50.	280000. (B1)
2, 4-DICHLOROBUTYRIC ACID (2, 4-D)	NG/L	100.	100000. (A1)
2, 4-DICHLOROPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2, 4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	87000. (B3)
PICHLORAM	NG/L	100.	2450000. (D3)
SILVEX (2, 4, 5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	14000. (A1)
DICHLOROVOS	NG/L	20.	N/A
DURSBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION	NG/L	N/A	N/A
MALATHION	NG/L	20.	160000. (G)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (B3)
METHYLTRITHION	NG/L	20.	N/A
PARATHION	NG/L	20.	35000. (B1)

SCAN/PARAMETER	DETECTION		GUIDELINE
	UNIT	LIMIT	
PHORATE (THIMET)	NG/L	20.	35. (D2)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	18000. (D3)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	70000. (A1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)

VOLATILES

BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHYLENE DIBROMIDE	UG/L	.05	50. (G)
METHYLENE CHLORIDE	UG/L	.500	1750. (D3)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	350. (D3)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (D1)
1,2-DICHLOROPROPANE	UG/L	.050	10.0 (G)
TRICHLOROETHYLENE	UG/L	.100	5.0 (D1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60 (D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17 (D4)
CHLOROBENZENE	UG/L	.100	1510. (D3)
1,4-DICHLOROBENZENE	UG/L	.100	5.0 (B1)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	200. (B1)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	46.5 (D2)